THE GENESEE FARMER.

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THE GENESEE FARMER.

SATURDAY, MAY 23, 1835.

The Ox-eye Daisy.

We have received a letter from a subscriber in Tompkins county who wishes to know how to destroy the Ox-eye Daisy or White Weed, by some called Bull Eyes. We are glad to find that farmers are beginning to waken up on such subjects. Were we going to purchase a farm, we should be willing to give several dollars more on the acre for one that was *free from bad weeds*, and not over-run with Canada Thistles, St. John's Wort, or the Ox-eye Daisy.

Weeds as every cultivator ought to know, are easily excluded by a very moderate portion of care and diligence. These devourers of the farmer's profits, sometimes indeed light down on his lands when the breeze comes from the fields of a careless neighbor, and soon prepare to take possession; but such seedlings are always feeble, and easily destroyed the first season. There is much more to apprehend from the very common practice of purchasing impure seed, and then sowing it without inspection. Some farmers however, (and we could name many such,) seem to pay no attention whatever to the increase of weeds. We have seen the St. John's Wort, or the Ox-eye Daisy, allowed to spread year after year, without a single effort to restrain them, till the whole field is occupied,—and which is the same in effect, laid under a heavy tax.

Weeds differ very much in their manner of taking possession of a field or farm. The Canada Thistle increases by its seeds as well as its roots, but we think it affords but very few seedlings in comparison with the other two plants that we have mentioned. The Ox-eye Daisy indeed, produces so much seed that *a learned author* has pronounced its extirpation impossible. We should think but lightly however, of that *farmer's* skill or energy who would adopt such a preposterous notion. Let us look at the nature of the thing. Cannot the old plants be prevented from going to seed? Can they not be destroyed? And can we not serve the young plants in the same manner? Now let us consider what course will be most effectual for these purposes. Some plants when not in a growing state, will bear to be turned over with little injury. We have had Spear Grass which was planted in autumn, rise nearly two feet through a bed of earth; but *late* in spring when its vegetation is vigorous, it would be smothered at less than half that depth. Let the Ox-eye Daisy then be ploughed under with a deep, even, regular furrow, when it is in its most growing state,—and suffocation must ensue. The ground however, will probably contain unsprouted seeds. When the old plants have rotted, successive ploughings and harrowings may be necessary to destroy the young plants that come forward, and to bring up more seed near the surface to germinate. Perseverance without doubt, will be essential to success; but perseverance can conquer all such enemies, and make a profitable business of it to the farmer.

The Turnep Fly.

The turnep fly, or ground flea as it is sometimes called, (a species of the genus *Haltica*) has a great taste for cruciferous plants, and often proves destructive to young cabbages and turneps. We were therefore amused and instructed the other day with a trick played on these little gentry which had taken possession of a Wall-flower, devouring its blossom buds and disfiguring its leaves. The operator came along with a tin milkpan, and cautiously placing it on the left side close to the stem, with his right hand he struck the plant, and handsomely *dished* the whole of them. Much they jumped to get out, but the smooth sides of the pan continually landed them on its bottom, till all, or nearly all, were dispatched. We have not seen an individual of the kind on the Wall-flower since.

The Season.

Comparative Progress of Vegetation.

The following extract is from the letter of a respected correspondent who resides near James' River in Virginia, about twenty-five miles above Richmohd. The difference of latitude, between that place and this, exceeds five degrees.

"3 mo. 20. Hepatica triloba in flower.
30. Claytonia virginica.
4 mo. 3. Sanguinaria canadensis.
6. Cherry trees.
7. Dandelion (Leontodon taraxacum.)
10. Anemone thalictroides, Stellaria pubera, Dentaria diphylla and laciniata.
15. Cercis canadensis.
17. Apple trees—some varieties. In full bloom about the 20th.
20. Dogwood, (Cornus florida.) Some trees with flowers fully expanded *and white* in southern aspects. Full ten days later than usual."

We shall now subjoin some notes from our Diary of the present season, by way of comparison. It should be remarked however, agreeably to the intimations of our correspondent, that much depends on *the aspect* or slope of the ground on which the plants grow; and woods, hedges, and fences, have also an influence. There must therefore be some uncertainty in comparisons of this nature, even when a difference of altitude, of warm or cold soils, of the vicinity of high mountains, or of large lakes or rivers, are *not* to be considered. Thus, a plant on a western aspect is more retarded in its growth during a course of cold westerly winds in the spring, than one on an eastern aspect; and a plant on a southern slope is less affected by northerly winds than one of the same kind on level ground. Now as no two years, and no two places so distant as Beaverdam and the Genesee Country, have winds of the same duration from any point, it follows that the advancement of vegetation this year in two different aspects, may vary considerably from its progress another year.

4 mo. 1. Claytonia virginica in bloom. This flower grew where it was sheltered at night from the frost, and from all northerly winds. The difference in the progress of vegetation between this border and common woodlands, we think would be not less than a fortnight, probably more.
4. Hepatica triloba.
20. Sanguinaria canadensis.
26. Anemone thalictroides.
5 mo. 8. Cherry trees.
9. Dandelion.
12. Cercis canadensis, not quite in bloom.
Apple trees, do.
Dogwood, do.

We shall now furnish some notes of other plants, showing the difference of season between last year and the present.

1834.		1835.
3 mo. 5.	Snowdrop in flower	3 mo. 25.
6.	Eranthis hyemalis	25.
10.	Crocus susianus	30.
10	Mezereon	4 mo. 9.
19.	Persian Iris	1.
19.	Hepatica triloba	4.
19.	Scilla sibirica	8.
4 mo. 7.	Trumpet Major	11.
12.	Sanguinaria canadensis	20
13.	Apricot tree	30.
16.	Peach tree	5 mo. 6.
19.	Sugar Maple	2.

From these notes it might be inferred that some flowers are much less affected by a difference of season than others,—such as the Trumpet Major Narcissus, which was only *four* days later in the present year; but the fact is that this plant is not an early riser, and while it lies snug in its bed, the weather but slightly affects it. On the other hand *Eranthis hyemalis* shows a difference of *nineteen* days; the Snowdrop *twenty* days; and the Mezereon *thirty* days. The observations were made in both years on the same plants growing in the same situations.

Ornamental Plants.

We resume our selections from the (English) Horticultural Register in the hope of inducing the admirers of ornamental gardening to place such beautiful plants on their lists of desiderata.

Glycine sinensis.

This is the *Westeria sinensis* of M. de Candolle, and the *W consequa* of Loudon's Hort. Brit. It is an extremely interesting plant. Its flowers are of a rich blue mixed with rose color. Introduced from China in 1816.

Barberis aquifolium.

This plant was originally discovered in North Western America by Mr. Menzies, and more recently by Mr. Douglas. It is a very ornamental evergreen, perfectly hardy, and will thrive equally well either in peat or common garden soil.

Barberis glumacea.

This is the *Mahonia glumacea* of De Candolle, and was found by Mr. Douglas in shady pine woods at the mouth of the river Columbia, where it was seen in great abundance. It is very hardy, but cannot bear that the extremity of its stem should be removed. The leaves are remarkable for the deep purple they acquire in autumn. Its

flowers, like those of *B. aquifolium*, are of a bright yellow.

Anemone acutipetala.

A native of Switzerland, introduced in 1819 by Mr. Schleicher, and flowers with us in April. Its flowers are purple, large and showy, and is perfectly hardy.

Aubrietia purpurea.

A very pretty little spring plant. It was introduced in 1821, and is a native of the South of Europe; flowers plentifully in April, and is perennial and quite hardy.

Ajax cernuus.

Drooping creamy-white Ajax.

This beautiful plant has been confused with *Ajax moschatus.* It is certainly the most distinct and handsome species of the whole genus.

Aquilegia garneriana.

A beautiful and splendid hibrid. The seeds were produced from *A. sibirica* impregnated with the pollen of *A. vulgaris.* It is quite hardy; succeeds well in the open borders, and nearly equals *A. sibirica* in beauty. Its color is a beautiful purple.

Rearing Silk Worms.

We copy the following article from the second number of the Hartford *Silk Culturist:*

As the season for making silk is approaching, it is important that the cocoonery be prepared, and every thing in readiness for commencing operations. With respect to a cocoonery, all that is necessary is to have a building inclosed in such a manner as to exclude the rain and chilling winds. If a building has not been erected expressly for the purpose, which, however, may be done at a small expense, barns, stables, and other out-houses, or unoccupied room in a dwelling house, may be easily fitted up for a temporary use. They must be furnished with shelves, or tables, on which the worms can be placed and fed.

Cocooneries have been furnished in various ways; but the following is perhaps attended with as little expense as any that have been adopted. It is recommended by Mr. Cobb of Dedham, who thus describes it. "I have used three tiers of rough pine boards fixed upon upright posts, about four feet in width, one above the other, with a space between of two and a half feet, affording room sufficient to pass all around the frame, so that I could reach any part of it. In making the shelves it is well to have the lowest one six inches broader than the one above it, and to make the same difference in the shelves above, so as to break the fall of such worms as happen to tumble down." Mr. C. also describes another method of constructing shelves, which he saw in the nursery of Mr. Smith of Baltimore, which he thinks a very good one. He says, "It is about two and half feet wide, by five or six long, made of thin boards, with a piece two inches wide nailed flat on the upper edge along the sides and ends, with legs about a foot long in the corners. The legs do not pass through the table, but leave a part of the hole on the upper side for the feet of another table to set in. Thus contrived, five or six of these tables are set one above another, and are taken down, cleansed, and again set up with facility. One of these shelves will accommodate five hundred worms." He also recommends putting old newspapers on the shelves, which may be taken off whenever it is necessary to clean the worms, and then be replaced.

The next step in the process is to hatch the eggs. The proper time, however, for this must be determined by the advance of the season. In New England and kindred climates, the season will ordinarily be sufficiently advanced by the latter part of May. The best criterion, however, of judging, is the leaves of the mulberry. The proper time for hatching the eggs is when the leaves of the mulberry are about the size of a man's thumb nail. When the proper time for hatching has arrived, all that is necessary is to expose the eggs to the action of the atmosphere of a common sitting room. In a day or two the worms will begin to appear, and must be immediately fed with the young and tender foliage of the mulberry. This is done by laying the leaves upon them, to which they will cling and commence eating. Care should be taken to classify the worms according to the time of hatching, keeping those which hatch about the same time in distinct classes; this will produce more uniformity in their future operation. While they are upon the leaves at the first feeding, they should be removed to the shelves intended for their future use. This is easily done by taking the leaf by the stem and carrying them to the cocoonery.

The worms being placed upon the shelves, they must now be fed three times a day, and care must be taken that the foliage be in good order. The leaves should never be picked when they are wet with rain or the morning dew, unless it be in cases of absolute necessity; and then they must be thoroughly dried before they are given to the worms. As the leaves must not be wet, so neither must they be wilted, for in either case they will make the worms feeble and diseased. To prevent this, care must be taken, on the approach of wet weather, to lay in a supply until the reappearance of the sun. In order that the leaves may be kept without wilting, they should be closed in a glazed vessel, or carried into a cellar or other cool place. M. D'Homergue recommends putting them under cover, on a brick pavement, or graveled floor, and removing them three or four times a day, lest they contract moisture. In this manner, he says, they may be kept three or four days.

In feeding worms, care should be taken not to feed them too many leaves at a time, and to lay them thin upon them. If laid too thick many of the worms will be carried off with the litter and destroyed. During the first stage of the worm the tender leaves should be selected for them, and those on young trees are better than those on older ones. Some cultivators sow the seed every year for the purpose of having tender leaves for the young worms, and all would find it materially for their advantage.

The silk worm undergoes four changes during its brief existence. These are called moultings, and follow each other at irregular periods, depending on climate, or temperature, and the quality and quantity of the food on which they feed. The periods of moulting are also hastened or retarded by the high or low temperature in which they have been kept during the winter. When they have been kept in a regular degree of temperature, the first moulting takes place on the fourth or fifth day after hatching; the second on the eighth; the third on the thirteenth or fourteenth; and the fourth on the twenty-second or twenty-third. The time intervening between the several moultings is called the several ages of the worm. The fifth age continues ten days, making thirty-two days, at the end of which it ordinarily attains its full growth. The time however has been protracted to sixty days. After it has attained its greatest size, which is about three inches in length, the silk gum is elaborated in the reservoirs, the worms cease to eat, and soon decrease in size and weight.

But to return to the treatment of the worms. Leaves from young plants are preferable to those from older ones, during the second stage. As the silk worm is tenacious of cleanliness, care must be taken to remove all the litter which they make. This may easily be done by scattering fresh leaves on one corner of the shelf, to which the worms will readily attach themselves. When they have thus attached themselves, take up the leaves, to which they cling, leaving the litter underneath, and place them in a clean place. After removing the litter they may be replaced in the same manner. Some lay the worms on sheets of paper. In that case, it is easy to take out the paper, lay it on a table or shelf, and carry the worms to another sheet placed on the shelf after cleaning it.

Full grown leaves, from the large trees, may be given during the third age, and the litter should be removed every day. All dead and diseased worms should be immediately removed, or they will endanger the health of the others. When the worms are sick, and are about changing their skins, they hold up their heads, are stupid, and appear to be asleep. This ought to be particularly noticed, for at such times they should be fed sparingly. The diseases of silk worms are in general the consequence of want of sufficient air and space—being suffered to get wet—being fed on damp and wilted leaves, and not being kept clean. The preventives of disease are, to prevent the causes which produce it. Give them room and air—keep them dry—feed them on fresh leaves, and keep them clean. The only disease to which silk worms are extremely liable, in this country, is called the *Tripes.* This disease, it is said, may be prevented by the use of the chloride of lime in the cocoonery. It has also been known to arrest the disease after it had become epidemic and threatened the destruction of the whole family of worms. It is a cheap article, a dollar's worth being sufficient for a large estaolishment. The manner of using it is simple. Put an ounce or two on plates, with a little water, and set them in different parts of the cocoonery, replenishing every four or five days. It may also be put in a jug, or demijohn, and a gallon of water added for every pound. Sprinkle the floor with a little of this solution three or four times a day, when there is an offensive smell in the room. In very hot weather, when it would be unsafe to cool the room by sprinkling cold water on the floor, (in consequence of the vapor evolved,) it would be of the greatest importance to have this solution, as it may be safely used. Should they, however, after all these precautions become diseased, the only remedy is to purify the air of the cocoonery, or convey them to another apartment. If the cocoonery is fitted up with glass windows, they should be partially darken-

ed during the silk season, as the worms do not work well in a full blaze of light.

As rats, mice, spiders, ants and fowls will destroy the worms, care must be taken to prevent their having access to them. In some cocooneries, a space of several inches is left between the shelves and the walls, and the legs, or posts, by which they are supported, are tarred to prevent the attack of these enemies. The smoking of tobacco must also be forbidden in the cocoonery, as it will endanger the health and may destroy the lives of the worms. In the fifth age the worms must be fed during the night, or a double portion of leaves given them at the last feeding. Our next number will be in season for making cocoons, and will contain full directions for that purpose.

From the New England Farmer.

Important Facts to be Observed

IN REARING STOCK.

Mr. Editor—I have seen in your work an account of M. Giron's experiments, which have brought forward some new and highly important laws, that regulate the form and sex of animals. A brief notice of them will be useful to all who are interested in improving stock.

M. Giron de Busareingues is an agriculturist in the south of France. His work contains two separate propositions, supported by experiments most numerous and satisfactory. The fist is—that in animals of mature age and perfect development, the influences on the sexes on the external form *crosses* in generation, the male being more like the dam, and the female progeny more like the sire. The second is—that in regard to sex itself, the influence is *direct*, the sex of the progeny corresponding with that of the parent which had the strongest constitution, and was in soundest health at the time of union.

The first of these propositions is deduced from an observation of a vast number of cases which cannot be detailed in this brief notice. After remarking then that they are sufficiently strong to convince every one of the correctness of the inference, I will proceed to state a few facts by which his second proposition is supported by M. Giron.

His first remark was, that, in his flocks and studs, those females who were at the most vigorous age, generally produced females whether united to strong or weak subjects; while those females that had either not attained, or had passed the prime of life, produced males when united to prime subjects, and females, when united to very old males. To ascertain whether this discovery corresponded with general observation among practical farmers, M. G. made inquiries of the neighboring agriculturists, who informed him that they had constantly remarked that when the male was young, and the female vigorous, the product of their union was female; while the contrary had as uniformly happened when the conditions were reversed.

In order to test this matter still further, M. G. announced, in 1825, to the agricultural meeting of Severac, that a part of his flock, already marked, would give him, at the next *agnelage*, more females than males. The society nominated two commissioners to ascertain the fact, and it turned out that the proportion of males to females was 1000 to 1472.

At a subsequent meeting M. G. offered to effect the production of a majority of males or females in a given flock, at the choice of the society. Two flocks were immediately furnished by members of the society.

The first flock was divived into two equal parts without reference to age or constitution. The first part being supplied with very young rams, gave a product of 30 males to 76 females: the second part being supplied with strong and vigorous rams 4 or 5 years old, gave a product of 55 males to 31 females.

The second flock was also divided into two sections, but with more regard to the other conditions referred to. The first section composed of strong sheep 4 or 5 years old, was sent into rich pasturage and visited by yearling rams; it produced 15 males and 25 females. The second section, composed of feeble sheep under 4 and over 5 years of age, was placed in dry pasturage, and received two strong rams over 3 years old; the result was 26 males and 14 females. In both experiments it was observed that the lambs produced by the young rams were equal in appearance to those produced by the most vigorous.

The experiments were continued on other classes of animals, birds and insects, with the same results. In the poultry yard, e. g. where the preponderance of maturity and vigor was on the part of the hen, there resulted 725 males and 1000 females; and where the male parent was most vigorous and of ripest age, there resulted 1415 males and 1000 females. Among horses his experiments were particularly clear and conclusive.

It happened to be most profitable to M. G. to have more females than males. With a view to this effect, he took care, in the year 1824, to furnish his mares good pasturage, and to give none to foal who had suckled the same year, or borne the year previous. "Elles ne furent presentees a l'etalon qu'apres qu'elles eurent donne des signes de chaleur." Five mares thus prepared, produced five females; and of fifteen foals procured from 1824 to 1827 there were 13 females and two males. In accordance with the same law, it is generally true, I believe, that southern horses, (particularly Arabian,) produce most female colts when united to the more vigorous mares of a northern clime.

So far as M. G. extends his comments to the human race, they are not within the design of this brief communication, which is intended for the practical benefit of farmers. This benefit may be easily and plainly deducible from the above statements so far as they relate to horses and poultry. Permit me to allude to the manner in which advantage may be taken of *both propositions* in rearing *horned cattle.*

Suppose you have a cow that is a remarkable milker, and wish to procure from her a progeny with the same excellence. Now the *common* way is, to send the cow to bull, and if she has a *heifer* calf, it is raised with high expectations, and the owner is invariably disappointed. The reason of this is, as we now see, that the *heifer* calf partakes of the external form and peculiar properties of the *bull* and not of the cow. Proceeding then on the principle developed by M. G., we should do as follows: send the cow whose properties you value to a bull of the ripest age and greatest vigor. The product will be a *bull calf* having the form and inherent properties of the mother, so far modified in their *developments* as the difference of sex required, but still inherently the same. This bull calf should be carefully reared, and *his female progeny* will exhibit the form and properties of *his dam.*

So also if you have a bull of huge size, fine form, great strength, and other excellencies, it will be in vain to expect similar form and properties in his immediate male progeny. But his heifer calves will inherit his properties, and transmit them to their male progeny. Thus must we be content to pass through one generation, and we shall probably be well rewarded for our patience and perseverance.

It is scarcely necessary to add that such patience is not necessary in rearing horses. If you wish to procure a colt of form and properties of a fine mare, send her to a vigorous horse, and the result will probably be a *male*, possessing the properties and form of the dam. On the other hand, if you wish a colt resembling a celebrated stud horse, you must send such a mare, (either old or very young,) as will be most likely to have, from this union, a female foal, for it is in this crossing of sexes we get the external form and properties we desire.

In conclusion allow me to express the opinion that the incredulity that exists among farmers about the possibility of propagating the qualities of animals, may arise from their want of knowledge of these laws. "I don't believe in your breeds of horses," says Farmer A. "There's my neighbor B. has as fine an animal as ever stepped, that came out of his old black mare that's not worth a pin." Now if Farmer A. had known as much as I wish to teach him by this paper, the fact he stated would not have led him to his skeptical conclusion. If the fine young animal was a female, it matters little what were the qualities of the "old black mare," the foal partook of the form and qualities of the sire, and so on.

Yours, &c. B. C.

[*By the Editor.*]

The foregoing is a very important paper, and the subject to which it relates is of great interest. We hope it will meet that attention—that theoretical and experimental investigation from farmers and breeders of stocks which a regard to a great improvement in a most essential branch of husbandry should induce them to bestow.

The Potato.

Mr. Hickley has communicated to the "Irish Farmer's Journal" a very singular and successful experiment tried upon the potato in the county of Dublin: A gentleman who holds a farm of 150 acres, planted in the usual manner 34 acres under potatoes in 1832; the result was, a complete failure of the crop. This induced him to try many experiments upon the root, all of which failed except the following: he took six potatoes and divided them into twenty cuts; he then got a large basin of water, into which he put a cupful of salt and a peice of blue stone about the size of a walnut. He put ten of the cuts into the basin, and let them remain there one entire night. On the following day he procured a very strong microscope, through which he examined the entire twenty cuts. On the ten cuts which were not immersed in the basin he could distinctly perceive many small white particles like eggs; and those cuts which were not immersed presented no such appearance whatsoever. This discovery urged him to follow up the examination attentively; and every day for a short period, he continued to watch the appearance of the aforesaid matter. The result was, that those white globlular particles were animalcula. for in a few days they became quite visible to the naked eye in the form of worms or magots. The cuts that had been steeped never showed the slightest appearance of any such thing, and they retained their solidity and firmness when the other ten cuts were completely decayed and rotted. Still unwilling to believe without further proof, he tried the experiment five or six times, and planted them, distinctly marking a division between those cuts which were steeped and those that were not. The consequence was, the almost total failure of one kind and the complete success of the others placed the question beyond the possibility of a doubt. He considers that the air has a powerful effect on the potato, and may sometimes impregnate it with this destructive matter.—*N. Monthly.*

Victora Wheat,

Yielding two harvests in the year.—Loudon's horticultural and agricultural notices, last autumn, gave satisfactory accounts of the experiment tried in Sumersetshire, of planting this valuable present made to his country by Sir Robert Ker Porter, our consular resident in that part of South America where it is a native of the soil. Loudon reports it to have given great promise, both from its spring and summer sowing. In Warwickshire, we ourselves know that it succeeded so well as to produce a fine crop in July last year, though by an accident, it had been planted a month too late; and it yielded a particularly sweet and well tasted flour, from which excellent bread was made. The proper times for sowing are February (which gives its harvest in June) and in June (which yields its harvest in October).

"It is better to bind men by kind offices than by fear."—*Livy.*

COMMUNICATIONS.

Formation of Calcareous Earths.

BY HOLKHAM.

Perhaps a few remarks, condensing the best received opinions of geologists upon the formation of calcareous earths, may serve to throw a livelier and more reviving light on the subject of the present discussion, than the dark lantern with which a very humble advocate for the use of lime is said to be alluring his deluded believers.

The highest mountains of the earth furnish limestone replete with shells and bones. The limestone at the bottom of the deepest mines and cavities is composed of the same materials.—Among the highly interesting discoveries of Cuvier, are the osseous remains, in calcareous strata, of not less than fifteen quadrupeds unlike any now in existence; and in a solitary corner of the basin of Paris, Lamarck found about six hundred species of shells, whose existence was most probably "with the years beyond the flood." The water, which in all probability covered large portions of these formations, was filled with animals adapted to such a state of existence; their shells and bones during a series of ages becoming petrified, produced solid strata, consisting of the exuviæ of shell-fish, and the reliquiæ of animals that perished with the various changes of all-changing time. Other marine animals produced masses by the congeries of their calcareous habitations. "Thus the formation of all calcareous substances seems to be more particularly *an animal process*, as the formation of clay belongs to the vegetable economy; thus the shells of fish are annually reproduced by the mucous membrane, the calculi of the kidneys; the bones themselves consist of calcareous earth; the deposition of callus, when bones have been broken, to again unite them, shows its existence; the various secretions of animals, as saliva and urine, abound with it, as appears by the incrustations about the teeth and the sediment of urine." We never supposed the fertilizing power of the latter liquid doubted, until we read yesterday in the Farmer, that a combination of hydrogen and azote, as evolved in the putrefaction of animal matter (ammonia,) was poisonous to plants, knowing as we did that it existed in the bones, hoofs, horns, and hair of animals, and was the essence or spirit of the urine and the saliva that they secreted; that the value of stable manure was frequently measured or estimated by the quantity of urine with which it was saturated, and that many distinguished agriculturists had recommended reservoirs for preserving it. "The animal mucous," says our now repudiated and rejected authority, the author of the Economy of Vegetation, "is a previous process toward the formation of calcareous earth, and the conclusion *is well established*, that all the calcareous earth in the world, has been formed originally by animals. Some appear to have been buried with their shells while alive," not by any sudden inundation, but in succession and at remote and distant periods.

We are not willing, however, the inference should be drawn, that the limestone, gypseous, or other calcareous formations, are all from aquatic sources; the recrements of *land* animals are abundant in marls, but we consider it rational to conclude, that what would have furnished manure if decomposed in the earth within the reach of atmospheric air, might, in the economy of Perfect Wisdom, have its texture so changed as to furnish manure, after undergoing a subaqueous process of petrefaction and stratification; and that such vast bodies of calcareous substances as now almost encrust the earth were intended for wise and beneficent purposes. Accordingly mankind, from the earliest periods of civilization, have adopted this conclusion, and have appropriated them to the amelioration and improvement of land. We are now told that they have all been occupied with a foolish waste of their energies, by a man who knows nothing with certainty, and whose *reason* and *sense*, if it has any peculiarity about it, is the last that should claim the epithet of *common*,—a man, too, who publicly acknowledges his ignorance of the application of chalk and carbon to the amelioration and improvement of soils, when the fact is indisputable that there is no substance, lime and stable manure excepted, that is so generally, and we might safely add, universally used in the most highly cultivated countries, as chalk, and in *all* countries where the expense of digging, quarrying, and transporting it are not too extravagant.

By a perusal of the Philosophical Transactions for the years 1778, 79 and 80, we can obtain the experiments of Priestly. This acute observer found that the water from the springs of Buxton and Bath produced more fertility than others, when used for the purposes of irrigation; he immediately proceeded to a rigid analysis of those springs, and found that they contained large quantities of calcareous matter, and that the further they run over and through calcareous strata, the more fertilizing they became; he continued his experiments until he demonstrated that phosphorous was as essential an ingredient in vegetables as in animals—that calcareous earth contained phosphorous—that by its union with it, it became converted into a *hepar*, and was thus rendered soluble in water, without becoming an acid—that during some of the stages of putrefaction, the phosphorous was set at liberty from the calcareous earth, from the alkali, or from the carbon of decomposing vegetables, and acquired oxygen, by which union both light and *heat* are emitted, and vegetation promoted. Sir Humphrey Davy, (whose book and page we were supposed to be guilty of misrepresenting,) has also discovered that calcareous matter, in *some proportion*, is an essential ingredient in *all fertile soils*—*necessary* to their proper texture; and as a constituent in the organs of plants,[a] that lime renders matters that were comparatively *inert*, *nutritive*[b]—that the chemistry of the more simple manures, the manures which act in very small quantities, as gypsum and the alkalies, had been previously exceedingly obscure, but that he had good reasons for believing that they were *actually a part of the true food of plants*, and that lime supplies that kind of matter to the vegetable fiber, which is analogous to the bony structure in animals[c]—that mild lime, instead of quick lime, should be used with animal manure[d]—that burnt lime was more beneficial to land containing ligneous or animal fibrous matter, than any other substance of the like nature in its natural state, as marl, chalk, or gypsum[e]—that calcareous waters are highly useful upon land, but most so upon land containing the smallest portion of the carbonate of lime[f]—that it was important to the agriculturist to be apprised of the difference (discovered by M. Tennant) between common and magnesian limestone, the latter of which, *under some circumstances*, is deleterious if applied in large quantities, but that under common circumstances, the lime from the magnesian quarry was used upon fertile soils "*with good effect*," and may be applied in larger quantities upon soils containing a large proportion of vegetable matter *with advantage*.[g] The probability that Sir Humphrey has assigned to calcareous earths their true office in vegetation, is heightened by the matters afforded by different plants upon analysis.[h] "In the best cultivated countries, lime is now generally used," (we repeat the expression for the sake of the authority.) "Its effects are perspicuous after the lapse of half a century. In some places it is spread on grass land, by which the grass in the first instance, and the cultivated crops afterwards, are found to be greatly benefitted; but in whatever way applied, the soil is hardly ever afterwards exhausted."[j]

We know, with at least a rational certainty, that plants as well as animals exude matters that would destroy them if retained; but to say that such substances when taken up by the lacteal and absorbent vessels, and before they had become changed, decomposed, compounded, or elaborated in the economy of vegetable growth, were poisonous, is as unphilosophical as it would be to say, that the secretions of animals, derived from the various changes that grass and other vegetables undergo in the organs of animals, were originally poisons. Hence it is that substances that are *essential* to make a soil of the proper texture, when entirely alone, are found to be unproductive. Silex, which constitutes the largest portion of any productive soil, is not an absorbent, and when uncombined is not fertile. The same remark applies to alumine, to lime, or almost any naked substance. Carbonic acid gas, concentrated, or without a portion of respirable air, kills plants as well as animals; and yet we all know that the very first decomposition of the pulp, surrounding the seeds, and which we suppose to furnish it with the best nourishment, is accompanied with the production of this gas in great abundance. How will it startle some of our theorists, or *dreamers*, if they like the epithet better, to find "that this aerial fluid, the carbonic acid gas, constitutes about four-tenths of limestone, and that this stone having lost its hardness by being deprived of this fluid, regains its former properties," (without the hardness,) "by recovering it."[k] As the carbonic acid is composed of the acidifying principle, the oxygen and the carbon, (or coal,) plants *may* derive from these principles their acids, their oils, their mucilage, &c. &c. The acidifying principle, attaching itself to different bases, makes wonderful changes in the chemistry of nature; in one case it becomes carbonic acid, in another sulphuric acid, in a third

a Elements of Agricultural Chemistry, pa. 21—b pa. 216—c pa. 19—d pa. 219.

e Elements of Agricultural Chemistry, pa. 21—f pa. 239—g pa. 232—h Abercrombie's Practical Gardening, pa. 601—j General Report of the Agriculture of Scotland, &c.—k Phil. Transac. for 1778, 79, 80, where Priestley's Experiments and Ingenhouz's Memoir are found at large.

nitrous acid, in a fourth phosphoric acid, in a fifth oxalic acid, &c. &c. We believe it an impossible task, in the present state of the science, to furnish an accurate theory accounting for all these operations, and we are mistaken if it is within the reach of the human understanding; hence the distilled spirits of urine, or of stable manure, may, under some combinations, or without any combinations, be, as is alleged, poisonous to plants, and in other circumstances highly beneficial. With respect to lime, we have no doubt that if men form theories, and search for arguments to defend them, instead of depending upon the *experience* and *practice* of mankind, a controversy may be plausibly maintained until the end of all coming time.

The singular property that plants possess of throwing out a poisonous air in the night, and pure or wholesome air in the day, gave rise to the celebrated controversy between Scheele and Priestley, which may be found detailed at large in the Philosophical Transactions of the period. The contradiction between the results of their experiments struck Dr. Priestley so forcibly that he employed the whole summer of 1778 in the most careful and accurate examination. He soon found that in the course of their decomposition of the atmosphere, they sometimes produced pure air, that they sometimes corrupted good air, that after correcting bad air, they again corrupted it, and so on, alternating the process; he was long unable to give a reason for this extraordinary discovery, but having communicated with Bertholet, with Scheele, and other eminent men of that era, he was at last introduced to Doct. Ingenhouz. This philosophical inquirer, in a masterly publication inserted in the 37th volume of the Annals of Agriculture, "has not only thrown considerable light on the economy of vegetation, but also on the renovation and improvement of soils." He demonstrated that a mixture of hydrogen and azote, which *we* denominate *ammonia*, was thrown out by plants in the dark, constituting, when free from other air, the most active poison to destroy animal life that has ever been discovered; he also proved, in contradiction to the doctrine of the two profound philosophers, (Scheele and Priestley,) that all airs which cannot be easily changed or decomposed into fixed air, and all airs possessing no oxygen at all, are true poisons to plants and among the rest putrid air; but the moment the decomposition of any air commenced, the plant resumed a vigorous and healthful appearance. We shall leave to others the application of these discoveries to the doctrine that ammonia is poisonous to vegetables.

We have already shown from the experiments of Priestley, that we are not entitled to an exclusive fee simple, but only a tenancy in common, in the calcareous soap which we were told had only an ideal existence. We shall close this article with two or three more authorities, to clear ourselves from the disgraceful imputation of imposing on our agricultural friends the coinage of our own brain for a substance existing in nature.

"Mild calcareous earth forwards putrefaction, it is soluble in water, it unites with sulphur, forming *hepar sulphuris*, and with animal and vegetable matters forming *a soap*."[l]

"One great use of calcareous earth consists in its uniting with the carbon of the soil, or with that of the vegetable and animal recrements during some part of the process of putrefaction, thus rendering it soluble in water; forming an *hepar carbonis*, somewhat like a *hepar sulphuris* produced by lime and sulphur, by which process the lime is rendered capable of being absorbed by the lacteal vessels of vegetables to whose roots it readily parts with its carbon"—"the black liquor which flows from dunghills is partly a fluid of this kind."[m]

"A second mode by which it is believed to assist vegetation, is by its union with carbonic acid, thus rendering it soluble in water in its fluid state, instead of its being expanded into gas, and thus a great quantity of carbon, *with which it readily parts to them*, is drank up by vegetable absorbents"—"it unites with vegetable and animal substances forming *a soap*."[n]

We could add a number of authorities, and among them the celebrated author of "The Connection of Agriculture with Chemistry," to confirm this opinion, but they would probably be swept away with the great names so contemptuously scorned by our opponent at the conclusion of his article. We could extract a masterly production from a late number of the North American Review, showing that the conductors of that journal place a different estimate upon the character and attainments of the great and good men who are now dwarfed by a comparison with our opponent in this discussion.

But we seriously ask, can any man, or rather can any woman, desire to multiply authorities for the establishment of the doctrine that lime will combine with vegetable and animal matters and form soap? We shall find our level in housewifery as in agricultural chemistry, if we continue this controversy, and must therefore show our gallantry at the expense of our learning, by submitting the whole matter to the female readers of the Farmer. HOLKHAM.

l Fordyce's Elements of Agriculture and Vegetation—Art. Lime.

m Notes to Phytologia.

n Dr. Macbride's Essays, p. 271, et passim.

Improved Horse Rake.

BY M. A.

MR. TUCKER—I have used a horse rake for a number of years, which I consider quite an improvement upon the one described in the 16th number of the Genesee Farmer. The improvement consists principally in drawing the rake by two shafts fastened to the rake head by hinges.

The one I use is made in the following manner: The rake, head, teeth, &c. as you describe; the shafts are six feet long, two and and a half inches wide, one inch thick, crooked much like an inverted sleigh runner; placed about five feet apart, equi-distant from the center of the head; united together by two slats as in the plate, fastened to the head of the rake by hooks and eyes, inserted from the back side or side opposite the teeth. A cross bar connects the handles, which is much handier than separate handles The advantages of these shafts over ropes fastened to the end of the rake are, that the rake can be varied to the ground, and if the teeth catch, the rake head rises until the handles strike the slat. The teeth then stand perpendicular to the ground, and keep the hay along. In unloading, I bend forward the handles by having the right hand hold of the center of the cross bar, and seizing the head of the rake with the left hand, raise it over the winrow—then drop the rake; the right hand holding the cross bar, brings the teeth to the proper slant. Any gronnd that can be mowed can be raked with a horse rake; and an expert hand, with a steady horse, will rake as fast as six men with hand rakes. It may be objected that it will not rake clean. The way I manage is to cross rake instead of raking after the cart.

It is said to be a very expeditious way of gathering peas—pulling them and gathering into winrows ready for carting.

Yours, &c. M. A.

Ploughing.

The most common operations in husbandry are frequently the worst performed. Accustomed to them from boyhood, we acquire the habit of doing them mechanically, without scanning well their object, or investigating the principles upon which they ought to be conducted. Our ploughmen would think themselves insulted, if told they did not know how to plough their grounds well. And yet, without intending to charge them with this defect of knowledge, we are free to say, we do not find hardly two fields in fifty *ploughed well*. There are three principle objects that should be aimed at in ploughing:—1 To break up the *whole* surface of the field; 2. To give the *greatest exposure* of fresh earth to the atmosphere; and 3. To induce the greatest pulverization of soil. It is too much the practice to *cut and cover*, and to lay the furrow-slice flat, which neither gives the greatest exposure nor induces the best pulverization. We are persuaded, that what we are about to offer upon this subject, may be read with advantage by even the best ploughmen, however trite and well understood the subject may appear. The principle illustrated in figure 6, is particularly important.—*Cultivator.*

From "Elements of Practical Agriculture," by David Low, Professor of Agriculture in the University of Edinburgh.

The Plough.

By means of this instrument the earth is to be turned over to a given depth: and this is to be effected by cutting from the ground successive sods or slices of earth, so that each sod or slice shall be raised up and turned over, and all the sods or slices laid resting upon each other, in such a manner as that an entire new surface shall be exposed to the atmosphere.

In the following figures, let A B C D represent the end or transverse section of the slice of earth which is to be turned over.

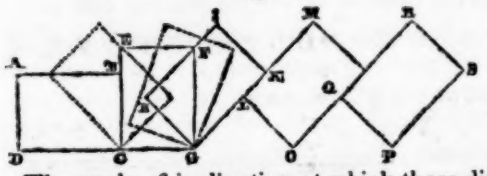
Fig. 1. Fig. 2. Fig. 3.

The slice is first to be raised from the position in which it lies in fig. 1: it is next to be placed in the position shown in fig. 2: and it is finally to be placed in that represented in fig. 3.

In the following diagram, let A B C D, corresponding with the same letters in the last figures, represent a transverse section of the slice of

earth which is to be turned over. This slice is first to be raised from its horizontal position A B C D, by being turned upon its corner C as a pivot, and placed in the position C E F G, corresponding with that of fig. 2. It is then to be turned upon its corner G as on a pivot, and laid in the position G H I K, corresponding with that of fig. 3. In this manner, the side D C, which was formerly underneath, will be above, namely, in the position H I; and if successive slices shall be thus reversed, they will rest upon each other in the manner shown by the sections of the slices P Q R S, O L M N, and G H I K.

Fig. 4.

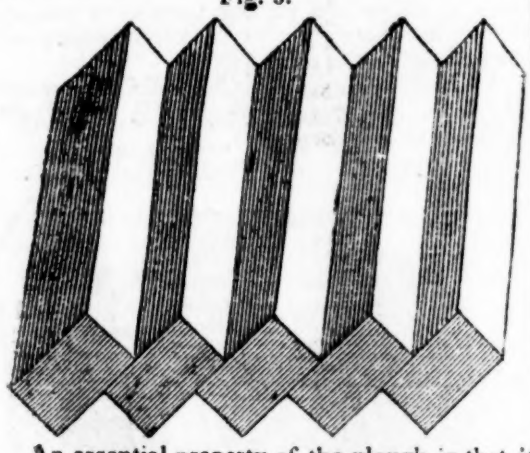


The angle of inclination at which these different slices will naturally rest upon each other, in the manner shown in the figure, will depend upon the proportion which the width of the slices bears to their depth; and that the greatest extent of surface may be exposed to the air, the angle of their inclination will be 45°. In order, therefore, that the slices may be at this angle, the proportion which the width of the slices bears to their depth is to be determined; and this can be done by simple calculation; for it can be shown that the width of the slice A B, being the hypothenuse of an isosceles right-angled triangle, the depth of the slice B C, will be one of the sides. Supposing, therefore, the width of the sod A B to be 10 inches, the depth B C will, by calculation, be 7.071 inches.

If, then, beginning at one side of a field, we shall cut off a slice of earth, the entire length of this field, and place in the position P Q R S, fig. 4, and then cut off a second slice, and place it in the position O L M N, and then a third slice, and place it in the position G H I K, and so on, the various slices will rest upon each other at a given angle, in the manner represented.

A similar operation is to be performed by the plough. Beginning at the right-hand side of the field or ridge to be ploughed, a sod, which we shall now call a furrow-slice, is to be cut from the firm ground, raised up, and turned over. A second furrow-slice is in like manner to be cut from the firm ground, raised up and turned over, and so on. In this manner, an entire new surface will be exposed to the atmosphere, and the successive furrow-slices laid resting upon each other, thus:—

Fig. 5.



An essential property of the plough is that it shall move in the earth with a steady motion: and the giving to it, the form and combination of parts necessary for that purpose is one of the main difficulties attending its construction.

Were it ascertained by experiment on the plough when at work, at a given depth of furrow, and in soil of a given texture, that a cord attached to any point A, Fig. 6, and drawn in the oblique direction A B, would so pull forward the plough, that it should press uniformly upon the earth at all points, from C to D, that the share should neither tend to point upwards nor downwards, but should move horizontally forward, then it is to some part of this line that the moving power should be applied; and further, it is known from the principles of mechanics, that it matters not, in so far as regards the force exerted, to what precise part of this line the power is applied. Now, without entering into any mathematical investigation of the principles upon which this line is to be determined, is to be observed, that in a well made plough, formed on the principles pointed out, this line, drawn from the usual point of attachment of the draught on the collars of the working cattle, will intersect the sole of the plough at E, a little behind the setting on of the share, and a little to the right of the plane of the left side of the instrument.

Now, knowing the height at which the point of draught is to be attached to the shoulders of the working cattle, let us suppose 4 feet, and the distance from the point of the share at which the animals of draught can be conveniently yoked, let us suppose 12 feet, then laying off D F 12 feet, and F B 4 feet, and drawing B E; it follows that the point at the end of the beam, to which the draught is attached, may be placed in any part of the line B E. So that whatever be the length which we shall give to the beam, the line in question will denote the end of it, or the point to which the draught is to be attached.

Fig. 6.

But the angle which the line E B forms with the surface, is not, as can be shown, constant, but varies with the depth ploughed, and the tenacity of the soil. That the instrument may suit itself to these variations, as well as that any defects in the form of its parts may be counteracted, and that the line of draught may be placed in that position which is required to pull forward the plough, without there being any tendency in the share to sink into the ground or rise out of it, the bridle is fixed at the end of the beam, so as to elevate or depress the line of draught as may be required. Should the plough for example, tend to go deeper into the earth, the line of draught is to be lowered by means of the bridle, so that it shall form a greater angle B G F; the effect of which will be to counteract the tendency which the plough has to go deeper. The same effect will be produced by shortening the traces by which the horses are attached to the draught, and thus increasing the angle. In like manner, by means of the bridle, the point of draught can be shifted to the right or to the left. If the point of the share tends to turn to the left hand into the firm ground, the line of draught is shifted more to the left, and if to the right hand, it is shifted more to the right. This adjusting of the plough's motion is easy, and is performed by the ploughman, until he feels that the plough continues to *swim fair*, to use his own technical language; that is, until he feels, which he does at once, that it continues to move horizontally forward, without any tendency to turn to the right or left, or to rise from the earth or to sink into it. A well constructed plough of this kind, therefore, needs no wheels or other devices to steady its motion; the effect being produced by merely altering the direction of the line of draught.

Cheese.

Process used by C. Vaughan, Esq., of Hallowell, in the making of cheese.

1st. If possible to make cheese at each milking.

2. To heat a small quantity of the milk so as to bring the milk taken from the cows to the heat of 96 deg., which is the temperature of the milk as it comes from the cow.

3. To use liquid rennet, and to make the cheese of equal quality. The rennet should be prepared the first of the season and kept in small bottles; and it being of equal strength, it ought to be used by measure, according to the gallons of milk to be turned.

4. When turned to curd, a wooden knife should be passed across the curd in the tub, and when the whey is properly separated it should be placed in a basket in which a strainer is first placed.

5. When strained it should be broken up into small particles, but not hard squeezed, and then salted, and put into the cheese hoop.

6. It is then to be put into the press, and the pressure to be gentle at first, and gradually increased and turned twice each day; the last pressure may be considerable. In this manner the rich part of the cheese is kept in at first, and at the last, the moisture is pressed out, which in the common mode is dried out, by time.

7. The cheeses after they are taken out, should be put where there is air, and where the flies cannot get to them, and turned and rubbed over twice a day. The outside ought to be rubbed with butter—some use fat pork. The cheeses treated in this manner have been better fit for use in three months, than common cheeses in nine months.

The press best fitted is a lever or beam press, made out of timber 7 or 8 inches square and ten feet long. The end is secured by a strong pin between two upright pieces, and when parallel with the bench it is over, it should be as far apart as to admit the largest cheeses that may be made, with the follower to go under at the heel. The cheese when first put under, should be put as far from the heel as possible and light weighed—every time it is turned it should be put further under, and the fourth time, which is the end of the second day, it should be as near to the heels as possible.

When two cheeses were made in a day, they were put in one press. There is a simple and new kind of press which is said to have the quality of pressing as much or as little as is wanted.

There are several English receipts for preparing rennet. The rennet one season was prepared by soaking the bags in brine, and all the liquor was then mixed and put into small bottles, well corked and kept for use.—*Maine Farmer.*

Ribbon Grass.

We have read with much interest two numbers of a series of essays, now in a course of publication, in the New Hampshire Journal, on the subject of grasses. They are by an old experienced farmer, Mr. *Abednego Robinson*, of Portsmouth, and are written with all that strong good sense and shrewdness of observation, for which the intelligent farmers of that section of our country are so remarkable. In the third number, he treats of a species of grass, which he terms *Ribbon Grass*, and which is also known by the names of Fancy, and Puzzle grass. It grows to the height of 4 feet, is represented as being preferred by stock even to timothy, and will yield from three to four tons to the acre. It will bear being cut twice in the season, and has this advantage over most other grasses, that it vegetates luxuriantly in bogs, marshes and quagmires, or to use the language of Mr. Robinson, "it is truly amphibious, and will do well on *high dry lands*, and thrive in a *bog* or even *in water*." It may be planted in a marsh without draining, as from the tough nature and prolific growth of its roots, a sward is soon produced that will bear cart and oxen to pass over it. It is not thought to mature seed that will germinate, but can be successfully propagated from the roots by dividing the tufts so as to have from three to four stalks in each, setting them out about two feet apart; and from an experiment which Mr. Robinson made, he thinks the stalks of the grass will vegetate without roots, and should he be correct in this supposition, the facility of setting out a field, marsh, or spot of wet or boggy ground, would be greatly increased. The stalks without root, we should presume, would thrive best, however, in moist situations; but at all events, if it be considered, that this grass, when once set, will last for years, and drive out every other species, the extra labor in propagating it at the onset, is, in fact, not a very serious objection, and should deter no one from entering into its culture.—*Baltimore Farmer.*

Dairy House.

The dairy house or room should be kept neat and cool. It should be as little exposed to the sun as possible. An apartment in a sweet well ventilated cellar has been recommended for keeping milk and cream in. Cheese should never be put to dry in the same room in which you set milk for obtaining butter, because they communicate an acid taint to the air, which has a tendency to make the milk sour. The milk room and cheese room should, therefore, be separate apartments. It will be well to have a milk room placed over a spring or brook, near your dwelling house, and so to contrive the inside arrangement that cool, fresh, running water may enter water tight platforms or troughs, and the milk pans be set in that water. It is said that the dairy houses in Pennsylvania are built over springs, and their milk pans are set in cold running water, by which, and other modes of good management, the butter brought to market in Philadelphia, is said to be the finest in the world. This mode of making good butter is not unknown, though not common, in New England. A writer for the Vermont Journal, in an article published some years since, gives the following description of a milk room:

"The shelves are so constructed as to admit the immersion of a milk pan in cold water, nearly to the top, resembling a shallow trough. By the advantage of location, the water is constantly running from a spring on at one end of the shelf and off at the other, and may be easily conducted from shelf to shelf through a whole room. The consequence is, the milk keeps perfectly sweet, in the warmest season, until the cream is all risen, which is in a short time,—of course the butter will be sweet. Now are there not hundreds of places that would admit of the same improvement with trifling expense, which would be refunded fourfold in one season?"—*N. E. Far.*

Barn Yard and Hog Pen.

My father, whose farm I inherited, and took possesesion of two years ago, had his hog stye detached from his barn yard. Immediately on entering upon the farm, I removed my pen by enclosing a portion of the barn yard. I keep my stye well littered with straw, leaves, weeds, soil from the woods, and meadow earth obtained from ditching, by carting, together with that put into the yard, from two to ten loads per week. I sometimes put a few handfuls of rye in different places in the yard and let in hogs. Feeding them thus, for a few days, they completely stir up and commute the contents of the yard. I am confident that I make four times the quantity of manure that my father did, and with no increase in number of stock—and of a better quality too, comparatively none of its strength being washed away by the rains, and evaporated by the sun. My farm consists of nearly 70 acres, principally in tillage. I am confident that I shall, in the course of time, get it all in a state of high cultivation, without laying out any money in the purchase of manure.—*Maine Farmer.*

Liquid Manures.

In the preceding volume of this work, page 134, there is a very interesting article on the propriety of using liquid manures for the purposes of horticulture; a solution of soot and water is therein recommended, in the proportion of six quarts of the former to a hogshead of the latter. This mixture has been found to exercise a most salutary influence on *Peas*, *Asparagus*, and a variety of other vegetables, to which it has been applied; we do not doubt the fact stated, and would here observe, that the *soap suds* made in a farmers' family, which is mostly thrown away, is one of the most effective manures that can be applied to vegetables and flowers of all kinds. From an experience of several years, we can testify to its invigorating effects, and recommend its use with confidence. There are but few families, anywise extensive, who do not make a sufficient quantity of this article in the course of the year, to keep a garden of tolerable size, not only in good condition, but rich enough to secure good crops of vegetables.—*Balt. Far.*

Rules for Making Butter.

The editor of the Maine Farmer, gives the following brief directions on the subject of making butter, and they will be found on examination, to be infinitely preferable for all practical purposes, to a long essay. He says what is strictly true, that the art of making butter is extremely simple, and may be reduced to a few rules. In the first place, keep every utensil clean and sweet. Then be careful to churn the cream before it is too old. Churn it well, till the buttermilk is separated from the butter. Work out all the buttermilk, and then salt it with good Turks Island or Rock Salt. This he prefers to Liverpool salt, because as he alleges, the latter is not so pure as the two former kinds, as it contains glauber salts, sulphate of magnesia, muriate of lime, and other impurities.—*Balt. Far.*

Laying Down Spring Butter.

This important article in every family is considered best, even in winter use, if made in May and June. A lady of my acquaintance is obliged to put on her table the greatest part of her churnings; yet she continues to lay down a great deal of her winter's butter during these months. As soon as each portion of the churning, however small, is put in the firkin or jar, brine is poured on to keep it from the air. Her butter is excellent.

Fine Potatoes, Oats and Corn.

EARLY June, Early White Kidney, Black Kidney, Foxite, Mercer, Pinkeye, and Irish Cup, POTATOES; 50 bushels of superior ENGLISH OATS, and a quantity of choice, selected SEED CORN, of the best kinds, for sale at the Rochester Seed Store.

REYNOLDS & BATEHAM.

Rochester, April 11, 1835. ap 14

Fruit Trees, Grape Vines, &c.

FIVE thousand Grafted Apple Trees, mostly of large size and thrifty growth, consisting of 20 or 30 of the most valuable kinds known. Also, an assortment of Peaches, Plums, Pears, Cherries, Quinces, Currants, Gooseberries, Raspberries, &c., and both native and foreign Grape Vines, from one to six years old.

Also, 5,000 White Italian Mulberry Trees, two years old.

All of which are for sale, either in small or large quantities, at low prices, by

REYNOLDS & BATEHAM.

Rochester, April 11, 1835. ap 14

A Valuable Farm For Sale.

THE valuable FARM owned and occupied by Elias Beach, 4 miles west from the city and situated directly on the Erie Canal, containing 240 acres of good wheat and grass soil, well watered, with good house, barns, out houses, &c. Five thousand dollars will be required in cash, and the balance may remain on bond and mortgage for a term of years. Title indisputable. The price per acre may be learned on inquiring of JAMES H. WATTS, at No. 3 Exchange-street, Rochester, and the owner will at all times be ready to give further particulars on the premises. ap 18-tf

Robbins' Patent Planting MACHINE.

WITH this machine Corn, Beans, Peas, and all seeds of an oval shape can be planted with more system and correctness than can be done in the usual manner of planting with the hand and hoe.

One acre of ground can be planted, placing the seeds any given distance apart, from two or more inches, and rows two and a half feet between, in three hours time.

Machines can be had by applying to C. N. BEMENT, Treasurer of the State Agricultural Society, Albany; BUSHROD BUCK, Lanesborough, Berkshire county, Mass.; and DANIEL I. BUCK, Lowville, Lewis county, agent and proprietor for making and vending said machines, at all of which places it is intended to keep a supply on hand.

☞ The above machines are for sale at Reynolds & Bateham's Seed Store Rochester.

Lowville, March 25th, 1835. ap 14-tf

FLOWER SEEDS.

A SPLENDID assortment of Annual, Biennial and Perennial Flower Seeds, put up in small papers at 6 cents each, or 20 varieties for $1, and 100 varieties for $4, for sale at the Rochester Seed Store.

REYNOLDS & BATEHAM.

may 5-3w

150 lbs. Lucern Seed,

OF fine quality and proved vitality, for sale at a reduced price, at the Rochester Seed Store.

Also, A few thousand SILK WORM EGGS, just received and for sale as above.

REYNOLDS & BATEHAM.

May 1, 1835. may 2-tf

Monroe Horticultural Garden & NURSERY.

THE subscriber offers to the public a choice selection of Fruit Trees, of French, German, English and American varieties, consisting of Apples, Pears, Plums, Peaches, Cherries, Apricots, Nectarines, Quinces, Currants, Gooseberries, Raspberries, Strawberries, Ornamental Trees, Shrubs, Plants, Hardy Roses, Vines, Creepers, Herbaceous Perennial Plants, Bulbous Roots, &c. &c.

ALSO—A few hundred of the Morus Multicaulis, or Chinese Mulberry, the White Italian Mulberry by the hunbred or thousand, Grape Vines of both native and foreign varieties, mosty of large size, for sale by the single vine, hundred or thousand, at reduced prices. The subscriber has a large collection of Green-House Plants of choice and select varieties, and in good condition.

☞ Orders for *Mr.* Rowe's Nursery received by the Publisher of this paper.

Catalogues will be sent to those who wish them, gratis, or may be had by calling at the office of the Genesee Farmer. ASA ROWE.

Greece, *Monroe* co. N. Y. Sept. 13, 1834.

IRON THRESHING *MACHINES.*

YALE & CURTIS' PATENT.

SOME of the advantages of this Machine are:—

1. The cylinder is made of plate iron, and will not get loose on the arbor or fly in pieces.

2. The spikes are secured in such a manner that they cannot come out or get loose, and so strong they will not break or bend.

3. It will thrash clean without cutting the grain.

4. It is portable—weighing about one ton, and easily moved by one team on a sleigh or waggon, and can be put into operation in one hour.

5. It is capable of threshing one bushel per minute with 4 horses, and sufficiently fast with 2.

6. It is perfectly safe to run the requisite number of turns per minute, *without flying in pieces and killing the men who tend it.*

The subscriber in order to accommodate the farmers with a good machine, and himself with funds, without deceiving them with a Patent Right, has adopted the following method of selling. Any person wishing to purchase a Machine answering the above description, by applying personally or by mail, will have one forwarded and put in operation on their own premises, without being under any obligation to buy unless the machine answers the above recommendation.

The Machines will be kept constantly on hand at the Machine shop and Furnace of A. S. POND & Co., West Utica, N. Y., where all orders, by mail, for Machines and Powers will be cheerfully attended to. Machines will be sold separate, to run with other powers if the farmers have them on hand,

N. B. Having deviated from the common custom, in not appending *Certificates from Justices of the Peace, &c.* a great distance off, perhaps some apology may be thought necessary. I would merely say, my machine is different from those in common use—my manner of selling is also different—and the machines being made to *use*, I take the uncommon course of selling *them* instead of certificates.

To those men who make or sell *wooden* machines, and are in the habit of telling farmers theirs is the *best*, I would say that I shall always hold myself in readiness to meet them at any reasonable place they may name, (with sufficient notice,) and put my machine in operation by the side of theirs, and let the farmers judge which is *best.*

☞ Persons wishing machines in Western New York, will please call on J. A. Hadley, *one and a half miles west of Churchville*, by mail or otherwise, who is agent for the subscriber.

LINUS YALE.

Utica, May 5, 1835. my 19-tf

The Chimney Swallow.

The following interesting account of the chimney swallow is taken from Audubon's new work, now publishing in England.

Immediately after my arrival in Louisville, in the state of Kentucky, I became acquained with the amiable and hospitable Major Wm. Crogham, and his family. While talking one day about birds he asked me if I had seen the trees on which the swallows were supposed to spend the winter, but which they only entered he said, for the purpose of roosting. Answering in the affirmative, I was informed that on my way back to town there was a tree remarkable on account of the immense numbers that resorted to it, and the place in which it stood was described to me. I found it to be a sicamore, nearly destitute of branches, sixty or seventy feet high, between seven and eight feet in diameter at the base, and about five for the distance of forty feet up, where the stump of a broken hollowed branch, about two feet in diameter, made out from the main stem. This was the place at which the swallows entered. On closely examining the tree I found it hard but hollow to near the roots. It was now about 4 o'clock, afternoon, in the month of July.--Swallows were flying over Jeffersonville, Louisville, and the woods around, but there were none near the tree. I proceded home, and shortly after returned on foot. The sun was going down behind the Silver Hill in the evening: thousands of swallows were flying closely above me, and three or four at a time were pitching into the hole, like bees hurrying into the hive. I remained, my head leaning on the tree, listening to the roaring noise made within by the birds, as they settled and arranged themselves, until it was quite dark, when I left the place, although I was convinced that many more had to enter. I did not pretend to count them, for the number was too great, and the birds rushed to the entrance so thick as to baffle the attempt. I had scarsely returned to Louisville, when a violent thunder storm passed suddenly over the town, and its appearance made me think that the hurry of the swallows to enter the tree was caused by their anxiety to avoid it. I thought of the swallows all night, so anxious had I become to ascertain their number before the time of their departure should arrive. Next morning I rose early enough to reach the place long before the least appearance of daylight, and placed my head against the tree. All was silent within. I remained in that posture probably twenty minutes, when suddenly I thought the tree was giving way and coming down upon me. Instinctively I sprung from it, but when I looked up to it again what was my astonishment to see it standing as firm as ever. The swallows were now pouring out in a black continued stream. I ran back to my post, and listened with amazement to the noise within, which I could compare to nothing else than the sound of a large wheel revolving under a powerful stream. It was yet dusky so that I could hardly see the hour on my watch, but I estimated the time they took in getting out more than thirty minutes. After their departure no noise was heard within, and they dispersed in every direction with the quickness of thought. I immediately formed the project of examining the interior of the tree, which as my kind friend Major Crogham had told me, proved the most remarkable I had ever met with. This I did in company with a hunting associate. We went provided with a strong line and a rope, the first of which we after several trials succeeded in throwing across the broken branch.—Fastening the rope to the line, we drew it up; and pulled it over until it reached the ground again.—Provided with the longest cane we could find, I mounted the tree, by the rope, without accident, and at length seated myself at ease on the broken branch: but my labor was fruitless, for I could see nothing through the hole, and the cane which was about fifteen feet long, touching nothing on the sides of the tree within, that could give any information, I came down fatigued and disappointed. The next day I hired a man, who cut a hole at the base of the tree. The shell was only eight or nine inches thick, and the axe soon brought the inside to view, disclosing a matted mass of exuviæ, with rotten feathers reduced to a kind of mould, in which, however, I could perceive fragments of insects and quills. I had a passage cleared or rather bored, through this mass, for nearly six feet.—This operation took up a good deal of time, and knowing by experience that if the birds should notice the holes below they would abandon the tree, I had it entirely closed. The swallows came as usual that night, and I did not disturb them for several days. At last, provided with a dark lantern, I went with my companion about nine in the evening, determined to have a full view of the interior of the tree. The hole was opened with caution. I scrambled up the sides of the mass of exuviæ, and my friend followed. All was perfectly silent. Slowly and gradually I brought the light of the lantern to bear on the sides of the holes above us, when we saw the swallows clinging side by side, covering the whole surface of the excavation. In no instance did I see one above another. Satisfied with the sight I closed the lantern. We then caught and killed, with as much care as possible, more than a hundred, stowing them away in our pockets and bosoms, and slid down into the open air.

The King Snake.

There is a large species of speckled snake called by common usage in the southern states, the King Snake, perhaps because he is the most formidable enemy of the fatal rattle snake. It seems to be the chief object of his existence, to seek, to pursue and to destroy the latter, whose retreats and presence are discoverable by the emission of a peculiar smell resembling that of a cucumber vine. The King Snake, to almost all other animals, is the most gentle and harmless of creatures; you may strike him, he shows no resentment, he hisses not, he turns not, nor does he exhibit any terror or sluggishness. Drawn by the smell of the cucumber, he frequently enters gardens, but his appearance excites no alarm in any human being, that knows he is the King Snake; on the contrary, women and children will approach him, and turn him about with a stick, and playfully annoy him, with perfect impunity; he is only the relentless enemy of the rattle snake, whose strength and venom avail nothing against the activity and mode of attack of the King Snake, who is always victor in every combat.

Yet the Rattle Snake is a terrible reptile. There is a peculiarity truly appalling in the sound of his rattles, being unlike the noise of any other creature, and when you hear it, even the first time, the true instinct of nature impresses on your quailing heart, that danger and death are near. Never shall I forget one horrid event of my life!—I was fishing in a southern lake one summer day when an unusual disposition to sleep affected me. I stuck the ends of my fishing rod in the bank of the lake, and sought a beautiful place of shade to enjoy repose. I laid myself on the grass between two trees scarcely six feet apart from each other, my head resting against one and my feet against the other. I slept. When I awoke, I turned on one side and perceived at some distance from me, two brilliant humid orbs, and instantly a tremulous, mingled sensation of an indefinable nature came upon my faculties. Something of an instinctive dictate, or impulse, counselled me to avert my looks, but then there was such an absorbing, wishful delight in gazing into eyes, that intently meltingly gazed into mine, that even the tremulous pulsations of fear fixed my gaze, relaxed my frame, and I remained so fascinated that I could see nothing but the most beautiful colors. In short I was so totally lost, so completely bewildered with commingled emotions, that I was absolutely powerless, and I could not withdraw my gaze, nor even move. Suddenly, the melting eyeballs glared with sparks of fire—there was a movement—I started from a dreamy state—I saw a huge rattle snake—its gaze was disturbed, and when I heard the hateful rattle sound, the full danger of my situation aroused me, and through all my frame, I felt the extremity of terror; and just as I was on the point of obeying a phrenzied impulse to rise and fly, I felt the deadly reptile, as I thought, coiling around my neck; I saw part of his body—I felt the shiny shin upon my neck, and the shiver of horror went through every joint and member of my frame. Such a feeling of agony! my eye balls filled with scorching fire—first red—next yellowish green. Oh there are moments of existence which involve the sensations of years, and when the whole detail of a thousand feelings scarcely occupy the brief space of a leisure thought. Nature could endure no more, and I lost all sense.

At length I had the painful tingling sensation of returning life through my veins, and when in full consciousness I arose from the earth, I saw near me tranquilly and quietly, a living King Snake, and farther off the lifeless length of a tremendous Rattle snake. I sat upon a log and reflected, and I am now satisfied that the King Snake had crept over my neck to my rescue, there being a large log on one side, and the lake on the other, so that his nearest route to his enemy was over my body. But although my life was providentially preserved, yet the effects of that scene are the exhaustion of a great portion of my excitability, and the introduction of grey hairs and premature debility, in all my powers of mind and body.—*Anecdotes of the South.*

The Osier Willow

Is worthy a place on every farm, because it takes up very little ground, requires very little care, and furnishes the best materials for baskets, which are indispensable to the farmer. This, like all the willows, is readily propagated by cuttings. Where it has taken good root, its shoots, in good ground, grow from four to eight feet in a season. These shoots should all be taken off every winter, unless very large willows are wanted, and the number is thereby annually increased. The art of fabricating baskets from them is easily acquired, and may be practiced in evenings and stormy days in the winter without cost. For ordinary baskets the osier is used with the bark on; but for neat house baskets they are pealed. The best way to divest them of the bark, is to cut, sort and tie the osiers in small bundles, say early in March, and place the bundles in a pool of stagnant water; and at the season the leaf buds are bursting, the bark will readily strip off. The osier may then be laid up to be used when leisure will permit. A well made osier basket is worth three or four made of splits. We have them which have been in wear years, and are yet good. To give them firmness and durability, a good rim and ribs, of oak, hickory or other substantial wood, are necessary.—*Cultivator.*

Transplanting Evergreens.

In reply to the inquiry, "What is the best season for transplanting evergreens?" we state the last of May, in this latitude, or when, in any place, the new spring's growth begins to shoot. If they can be taken up and removed with a ball of earth about their roots, they may be transplanted at almost any season. But this can seldom be done, unless the plants are grown in a nursery; for here they are generally furnished with a large number of fibrous roots, to which the earth adheres, which forest trees seldom possess. Evergreens require a constant supply of food to sustain their foliage. If they are removed when in a quiescent state of growth, the mouths or roots are necessarily diminished, and the plant is apt to die before the requisite supply is obtained. But if removed after the sap is in circulation, fewer roots will furnish a supply, and new roots become sooner formed To prevent evaporation from which the greatest danger arises, the ground about newly transplanted evergreens should be well mulched with coarse wet litter from the barn yard, and a pail of water may be occasionally thrown upon it, when the weather is dry.—*Ib.*

If you want to render your husband unhappy, blame him for everything he does, right or wrong.